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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

ALBERTALLI, BRIAN LOUIS

ART UNIT PAPER NUMBER

2655

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

<b>Application No.</b> 10/058,020	<b>Applicant(s)</b> BELROSE, GUILLAUME	
<b>Examiner</b> Brian L Albertalli	<b>Art Unit</b> 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on \_\_\_\_\_.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-43 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/29/02, 9/25/02.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on applications filed in the United Kingdom on January 29, 2001 and November 21, 2001. It is noted, however, that applicant has not filed certified copies of the 0102230.0 and 0127775.5 applications as required by 35 U.S.C. 119(b).

### *Claim Objections*

2. Claims 12-15 are objected to because of the following informalities:

The phrase "generally in the environment" is indefinite. Equipment is either in the environment, or not in the environment. To claim that equipment is "generally" in the environment is indefinite because it cannot be determined whether the scope of the claim covers only equipment that is in the environment, or whether equipment outside the environment is intended to be covered as well. Accordingly, all recitations of the term "generally" in the claims should be deleted. For the purposes of examination, "generally in the environment" has been interpreted herein as being in or not in the environment.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6, 8, 16, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (U.S. Patent 5,736,982).

In regard to claim 1, Suzuki et al. disclose a method of announcing to a user the presence of a real or virtual entity, or a representation of it (avatar), in a current environment of the user (virtual space), wherein the entity or its representation is announced to the user using an audio announcement that has a presentation character at least one aspect of which, other than or additional to its loudness, is set in dependence on the range distance between the user and the entity, or its representation, in the current environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

In regard to claim 6, Suzuki et al. disclose the announcement is made when the range distance reaches any one of a set of trigger values, the announcement presentation being dependent on the trigger value reached (the announcements are dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).

In regard to claim 8, Suzuki et al. disclose said current user environment is an audio field (virtual audio space) in which items are represented by corresponding synthesized sound sources from where sounds related to the items appear to emanate (column 18, lines 35-39), one such item constituting said entity with the corresponding sound source forming a said representation of the entity in the audio field (avatar), and the audio announcement having a presentation character the said at least one aspect of which is dependent on the range distance between the user and the location in the audio field of the sound source representing said entity (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

In regard to claims 16 and 30, Suzuki et al. disclose an apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate (column 18, lines 35-39), the apparatus comprising:

rendering-position determining means for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field (position coordinates, column 9, lines 28-43);

rendering means, including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions, the audio output devices being such as to permit the user also to hear real-world sounds

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from the environment (Fig. 3, audio is output through speaker SP, which would allow the user to hear real-world sounds, see also column 18, lines 35-39); and

announcement-control means for causing at least one said item to be announced to the user, via the corresponding sound source, using an audio announcement that has a presentation character at least one aspect of which, other than or additional to its loudness, is set in dependence on a range distance between the user and the location of the sound source in the audio field (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al.

Suzuki et al. do not disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be

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presented linearly. That is, unlike a visual user interface, where a large number items can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

7. Claims 2-5, 19-21, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., in view of Moore et al. (U.S. Patent 5,561,736).

In regard to claim 2, Suzuki et al. disclose:

(a) determining the range distance between the user (avatar Ai) and said entity (avatar Aj), or its representation, in the current environment (column 10, lines 22-26);

and

(b) modifying the presentation character of an announcement on the basis of the range distance determined in step (a) (column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose:

(b) selecting one announcement from multiple available announcements;

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(c) retrieving stored announcement data for the announcement selected in step (b); or

(d) using the retrieved announcement data to generate said audio announcement

Moore et al. disclose a method for presenting announcements of entities in the environment of the user. The method comprises:

(b) selecting one announcement from multiple available announcements (Fig. 4, text strings 100-138) that have respective presentation characters differing from each other in said at least one aspect (different voices and dialects) and are associated with a range distance (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

(c) retrieving stored announcement data for the announcement selected in step (b) (text string is retrieved, column 7, lines 8-9);

(d) using the retrieved announcement data to generate said audio announcement (the text string is synthesized into speech, column 7, lines 47-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).



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In regard to claim 3, Suzuki et al. disclose:

(a) determining the range distance between the user (avatar Ai) and said entity (avatar Aj), or its representation, in the current environment (column 10, lines 22-26);

(b) selecting, on the basis of the range distance determined in step (a), one presentation character from multiple available presentation characters that differ from each other in said at least one aspect (speech data between the avatars is captured and presented at different bit rates depending on the distance between the avatars, column 19, lines 12-24 and lines 46-52);

(c) generating said audio announcement using such as to impart to it the presentation character selected in step (b) (the bit rate and speech quality of the speech varies depending on the distance, column 19, lines 46-52).

Suzuki et al. do not disclose retrieving a stored announcement.

Moore et al. disclose a method for storing announcement data associated with a position location (column 5, lines 46-56 and column 5, line 66 to column 6, line 1).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

In regard to claim 4, neither Suzuki et al. nor Moore et al. disclose making a component personalized to the user.

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Official notice is taken that it is notoriously well known and recognized in the art to personalize the presentation of announcements so that the user feels more enrolled with the system. Especially in speech applications, this makes the user feel more comfortable with using the system.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to personalize the announcements to the user in order to make the user feel more enrolled.

In regard to claim 5, Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker

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voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claims 19 and 33, Suzuki et al. disclose rendering means operative to produce an announcement at the determined rendering position of the corresponding sound source that alters the character of the announcement according to the determined position (column 18, lines 35-39, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose a data store or that the announcement-control means is operative to select, for each said at least one item to be announced to the user, the appropriate announcement data for the said range distance concerned.

Moore et al. disclose:

a data store (Fig. 4, text strings 100-138) for holding, for each said at least one item to be announced to the user, announcement data for multiple announcements that have respective presentation characters differing from each other in said at least one aspect (different voices and dialects, column 5, lines 46-48);

an announcement-control means being operative to select, for each said at least one item to be announced to the user, the appropriate announcement data for the said range distance concerned (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

a rendering means being operative to use the selected announcement data to produce an announcement at the determined rendering position of the corresponding

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sound source (the text string is synthesized into speech at the spatial location, column 7, lines 47-49 and lines 55-60).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claims 20 and 34, Suzuki et al. disclose:

means for applying to an announcement a selected one of multiple different presentation characters that differ from each other in said at least one aspect (different bit rates, column 19, lines 12-24);

the announcement-control means being operative to select, for each said at least one item to be announced to the user, the appropriate presentation character which it then applies to the corresponding announcement data such as to cause the rendering means to produce an announcement with the selected presentation character at the determined rendering position of the corresponding sound source (speech data between the avatars is captured and presented at different bit rates depending on the distance between the avatars and rendered at the determined rendering position, column 18, lines 35-39, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose the announcement-control means includes a data store for holding announcement data for each said at least one item to be announced to the user.

Moore et al. disclose an announcement-control means includes a data store for holding announcement data for each said at least one item to be announced to the user (column 5, lines 46-56 and column 5, line 66 to column 6, line 1).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

In regard to claims 21 and 35, Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);

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- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

8. Claims 9-12, 17-18, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., in view of Richards (U.S. Patent Application Publication 2001/0056574).

In regard to claims 9 and 10, Suzuki et al. disclose a sound source representing the entity being positioned in the audio field at a range distance value from the user dependent on the distance between the user and the location of the entity (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose the entity is a real world entity or an augmented reality service.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify Suzuki et al. to track real world entities, so that a user could

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interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 11 and 12, Suzuki et al. disclose at least one aspect of the audio-announcement presentation character being set in dependence on the range distance between the user and the entity, wherein the range distance between the user and the entity is determined by range-determining equipment in the environment, the range distance being provided to selection equipment generally in the environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52; the distance is determined by terminals generally in the environment, column 4, lines 18-22).

Suzuki et al. do not disclose that the current user environment is the real-world environment of the user and the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56). Augmented reality is a real world environment.

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify Suzuki et al. to track real world entities, so that a user could

interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 17, 18, 31, and 32, Suzuki et al. disclose at least one aspect of the audio-announcement presentation character being set in dependence on the range distance between the user and the entity, wherein the range distance between the user and the entity is determined by range-determining equipment in the environment, the range distance being provided to selection equipment generally in the environment (speech data between the avatars is presented at different bit rates depending on the distance between the avatars. As another avatar approaches the user, the bit rate of the speech for that avatar is increased, column 19, lines 12-24 and lines 46-52; the distance is determined by terminals generally in the environment, column 4, lines 18-22). Suzuki et al. further disclose rendering-position determining means for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field (position coordinates, column 9, lines 28-43).

Suzuki et al. do not disclose the entity is a real world entity or an augmented reality service.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).



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It would have been obvious to one of ordinary skill in the art at the time of invention to further modify Suzuki et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

9. Claims 13-15, 22-29 and 36-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., in view of Moore et al., and further in view of Richards.

In regard to claims 13-15, Suzuki et al. do not disclose said audio announcement is made by announcement equipment at the entity, the user, and generally in the environment, using announcement data retrieved from a data store at one of one of the entity, the user, and generally in the environment.

Moore et al. disclose a data store for storing announcements generally in the environment (in personal computer 10, see Fig. 1 and column 5, lines 46-48).

It would have been obvious to one of ordinary skill in the art at the time of invention to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system.

Neither Suzuki et al. nor Moore et al. disclose a real world environment wherein said audio announcement is made by announcement equipment at the entity, the user, and generally in the environment.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of

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the real world entities (page 5, paragraph 56). Augmented reality is a real world environment. The announcements are made at the user (through headphones) or generally in the environment (see Fig. 7 and page 2, 1<sup>st</sup> column, last line to 2<sup>nd</sup> column line 5).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to present the announcements at the user, because this would prevent the need for an expensive, multi-speaker installment. It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to present the announcements generally in the environment, so the user would not have to wear headphones, thereby reducing the amount of equipment that the user needed to carry.

While none of Suzuki et al., Moore et al. and Richards specifically disclose making announcements with equipment at the entity, Richards does disclose that adding real world markers to the entities reduces the amount of video processing (retroreflective targets are added to the real world entities, page 5, paragraph 57, lines 9-14).

Official notice is taken that it is notoriously well known and recognized in the art that a large amount of processing is required to convincingly present an audio entity wherein the sounds appear to emanate from the entity's position in a spatialized audio system (such as through headphones or generally in the environment).

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It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al., Moore et al. and Richards to make announcements with equipment at the entity, in order to reduce the processing needed to make the announcement appear to emanate from the entity's position.

In regard to claims 22 and 36, Suzuki et al. disclose an apparatus for announcing to a user the presence of an entity in the user's current environment, the apparatus comprising:

means for determining a range distance between the user and said entity (column 10, lines 22-26);

modifying the presentation character of an announcement on the basis of the range distance determined in step (a) (column 19, lines 12-24 and lines 46-52).

Suzuki et al. do not disclose:

storage means for storing announcement data for multiple announcements that have respective presentation characters differing from each other in at least one aspect other than, or additional to, loudness;

means for selecting, on the basis of the determined range distance one announcement from said multiple announcements;

means for retrieving, from said storage means, the announcement data for the selected announcement; and

means for generating an audio announcement using the retrieved announcement data.

Moore et al. disclose :

storage means for storing announcement data for multiple announcements that have respective presentation characters differing from each other in at least one aspect other than, or additional to, loudness (different voices and dialects, column 5, lines 46-48);

means for selecting, on the basis of the determined range distance one announcement from said multiple announcements (the positions are a particular 3-dimensional coordinate, therefore each position has an associated range distance from the user, column 5, lines 46-56 and column 5, line 66 to column 6, line 1);

means for retrieving, from said storage means, the announcement data for the selected announcement (text string is retrieved, column 7, lines 8-9); and

means for generating an audio announcement using the retrieved announcement data (the text string is synthesized into speech, column 7, lines 47-49).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to select an audio announcement from a plurality of audio announcements with different characteristics on the basis of a range distance determination, since presenting announcements in a variety of voices from different ranges is much more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

Neither Suzuki et al. nor Moore et al. disclose the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 23 and 37, Suzuki et al. disclose the announcement is arranged to be made when the range distance reaches any one of a set of trigger values, the announcement presentation character being dependent on the trigger value reached (the announcements are dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).

In regard to claims 24 and 38, neither Suzuki et al., Moore et al., nor Richards disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be presented linearly. That is, unlike a visual user interface, where a large number items

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can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

In regard to claims 25 and 39, Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

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It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

In regard to claims 26 and 40, Suzuki et al. disclose an apparatus for announcing to a user the presence of a real-world entity in the user's current environment, the apparatus comprising:

means for determining a range distance between the user and said entity (column 10, lines 22-26);

means for selecting, on the basis of the determined range distance, one presentation character from multiple available presentation characters that differ from each other in at least one aspect other than, or additional to, loudness (;

means for retrieving the announcement data from the storage means; and

means for generating an audio announcement using the retrieved announcement

Suzuki et al. do not disclose:

means for storing announcement data; and

means for retrieving the announcement data from the storage means.

Moore et al. disclose :

means for storing announcement data (text strings, column 5, lines 46-48);

means for retrieving the announcement data from the storage means (text string is retrieved, column 7, lines 8-9); and

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It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to store audio announcement so that avatars would not have to be associated with a real person. This would allow the creation of 'virtual' avatars to present announcements about, for example, the state of the operating system,

Neither Suzuki et al. nor Moore et al. disclose the entity is a real world entity.

Richards discloses a method for presenting an environment to the user that presents real world entities in an augmented reality service that tracks the position of the real world entities (page 5, paragraph 56).

It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the combination of Suzuki et al. and Moore et al. to track real world entities, so that a user could interact and navigate in the environment the same way that they would in the real world environment, as taught by Richards (page 5, paragraph 56, lines 8-10).

In regard to claims 27 and 41, Suzuki et al. disclose the announcement is arranged to be made when the range distance reaches any one of a set of trigger values, the announcement presentation character being dependent on the trigger value reached (the announcements are dependent on trigger values D1, D2, D3, and D4, and no announcement is made when the distance is greater than a distance D, column 10, lines 22-34 and column 19, lines 12-24).



In regard to claims 28 and 42, neither Suzuki et al., Moore et al., nor Richards disclose that the announcement is made at periodic intervals.

Official notice is taken that it is notoriously well known and recognized in the art that in an audio user interface, users have trouble remembering where items are located in the audio space. This is because every item in an audio interface must be presented linearly. That is, unlike a visual user interface, where a large number items can concurrently be presented to the user, presenting more than a few items at one time in an audio interface overwhelms the user. So, once an entity is announced, the user must remember where that entity is located. To overcome this limitation, it has been long well known to repeat the announcements of entities at periodic intervals, so that the user is periodically reminded where the entity is in the audio user interface.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to make an announcement at periodic intervals, so the user would be periodically reminded where the entity was in the audio user interface and the user would not forget that entity.

In regard to claims 29 and 43, Suzuki et al. do not disclose that the at least one aspect of presentation is one of:

- speaking style;
- vocabulary;
- speaker voice.

Moore et al. disclose presenting announcements that vary the presentation character wherein the presentation character is one of:

- speaking style (dialect, column 6, line 6);
- vocabulary (each position has its associated text information, column 6, lines 27-29);
- speaker voice (column 5, lines 23-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Suzuki et al. to vary the speaking style, vocabulary, and speaker voice according to the range distance, in order to make the announcements more exciting and interesting, as taught by Moore et al. (column 5, lines 42-45).

### **Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brungart (*Control of Percieved Distance in Virtual Audio Displays*) discloses distance judgements made about speech are significantly influenced by the type of speech used (whispered speech is perceived closer than conversational speech). DeLeon (U.S. Patent 4,870,687) discloses system for measuring and announcing the distance to a real world object. Nimura et al. (U.S. Patent 4,937,751) discloses a navigation system with a plurality of stored announcements. Nagahara et al. (U.S. Patent 5,831,518) disclose a system for creating an virtual sound space that varies the volume of entities announcements according to the distance from the user. Robertson et al. (U.S. Patent 6,054,989)

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discloses a GUI that uses spatialized audio corresponding to entities. Miller (U.S. Patent 6,184,876) discloses a system that uses audible tones to indicate the distance between two virtual entities. Padula (U.S. Patent 6,330,486) disclose a system that adjusts audio according to a user's gaze in a 3D environment. Hilpert Jr. et al. (U.S. Patent 6,404,422) and Slezak (U.S. Patent 6,647,119) disclose computer systems that projects sounds in space to provide information about objects displayed on the screen. Mukojima (U.S. Patent 6,418,226) discloses a method for realistically recreating distance in an 3D audio field. Mynatt et al. (U.S. Patent 6,608,549 and U.S. Patent 6,611,196) disclose augmented reality audio systems.

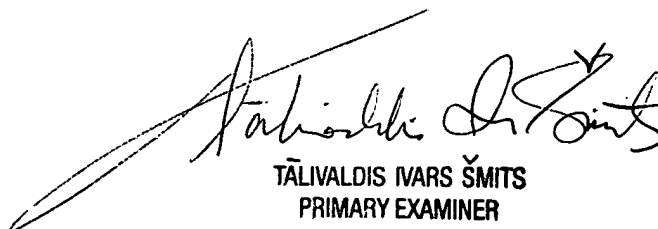
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L Albertalli whose telephone number is (703) 305-1817, until March 28, 2005. After March 28, 2005, the examiner can be reached at (571) 272-7616. The examiner can normally be reached on Mon - Fri, 8:00 AM - 5:30 PM, every second Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703) 305-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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BLA 3/2/05



TĀLIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER